

**SYSTEMS AND METHODS FOR THE DYNAMIC RANGE COMPRESSION
OF MULTI-BEARER SINGLE-CARRIER AND MULTI-CARRIER
WAVEFORMS**

Abstract of the Disclosure

5 The present invention is related to methods and apparatus that can advantageously reduce a peak to average signal level exhibited by single or by multicarrier multibearer waveforms. Embodiments of the invention further advantageously can manipulate the statistics of the waveform without expanding the spectral bandwidth of the allocated channels. Embodiments of the invention can be
10 applied to either multiple carrier or single carrier systems to constrain an output signal within predetermined peak to average bounds. Advantageously, the techniques can be used to enhance the utilization of existing multicarrier RF transmitters, including those found in third generation cellular base stations. However, the peak to average power level managing techniques disclosed herein can apply to any band-limited
15 communication system and any type of modulation. The techniques can apply to multiple signals and can apply to a wide variety of modulation schemes or combinations thereof.

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